

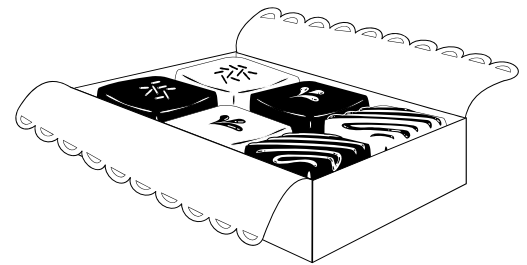
Truffles solving linear equations

Mrs. Toffee's chain of candy stores called True Truffles has become very popular. The idea of buying candy in packages for which the size is determined by the "base" of the store has caught on like wildfire. In fact, the store's best customer, Chuck Ulot, frequents the chain so often that he forgets from which "base" store he purchased his candy. Help Chuck to figure this out. For each scenario below:

- write an equation that represents the scenario,
- determine from which store Chuck bought the candy,
- draw a diagram to represent the scenario.

1. Chuck has six candies in his pocket. He remembers that he bought a sleeve and box.

2. Chuck has 28 candies in his desk drawer. He bought 4 sleeves.



3. Chuck has thirty-one candies in his refrigerator. He bought three sleeves and four boxes.

4. Chuck has nine candies in his pocket. He bought five sleeves and a box, and then ate three sleeves.

5. Yesterday, Chuck bought eight sleeves and ate 14 truffles. Today, he bought five sleeves and 10 boxes, and had the same number of truffles that was left over from yesterday.

6. Chuck buys eight boxes in the morning for breakfast. He buys a sleeve plus three boxes at both lunch and dinner. That night he has 20 candies total.

7. Solve:

a) $x + 6 = 9$

b) $3x = 45$

c) $4x - 1 = 20$

d) $7x + 5 - 3x + 2 = 15$

e) $6x - 1 = 2x + 11$

f) $7 - 3(2x - 8) = 1$